

STATE OF GEORGIA
TIER 2 TMDL IMPLEMENTATION PLAN REVISION 1

Armuchee Creek
Coosa River Basin
April 28, 2006

Floyd and Chattooga County Governments, City of Rome

Total Maximum Daily Load (TMDL) Implementation Plans are platforms for evaluating and tracking water quality protection and restoration. These plans have been designed to accommodate continual updates and revisions as new conditions and information warrant. In addition, field verification of watershed characteristics and listing data has been built into the preparation of the plans. The overall goal of the plans is to define a set of actions that will help achieve water quality standards in the state of Georgia.

This implementation plan addresses the general characteristics of the watershed, the sources of pollution, stakeholders and public involvement, and education/outreach activities. In addition, the plan describes regulatory and voluntary practices/control actions (*management measures*) to reduce pollutants, milestone schedules to show the development of the management measures (*measurable milestones*), and a monitoring plan to determine the efficiency of the management measures.

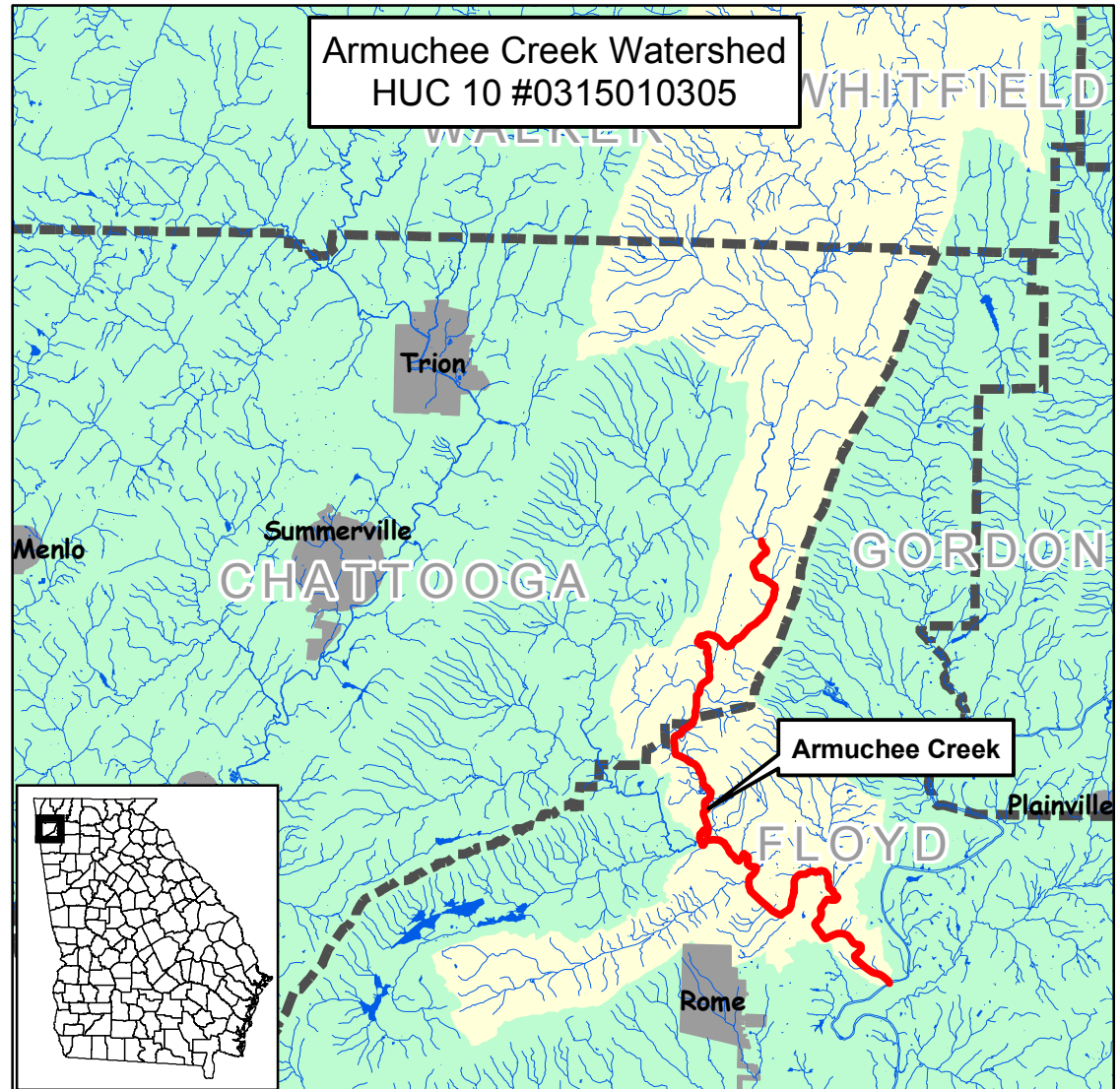


Table 1. IMPAIRMENTS

IMPAIRED STREAM SEGMENT	IMPAIRED SEGMENT LOCATION	IMPAIRMENT	TMDL ID
Armuchee Creek	Oostanaula River Tributary	Fecal Coliform Bacteria	CSA0000109
Armuchee Creek *	Oostanaula River Tributary	CFB (PCBs)	CSA0000115

* Plan will be written by GA EPD

II. GENERAL INFORMATION ABOUT THE WATERSHED

Write a narrative describing the watershed, HUC 10 #0315010305. Include an updated overview of watershed characteristics. Identify new conditions and verify or correct information in the TMDL document using the most current data. Include the size and location of the watershed, political jurisdictions, and physical features which could influence water quality. Describe the source and date of the latest land cover/use for the watershed. Describe and quantify major land uses and activities which could influence water quality. See the instructions for more information on what to include.

Armuchee Creek flows from the confluence of East Armuchee and West Armuchee Creeks in Chattooga County. It later becomes the largest tributary to the Oostanaula River, a source of drinking water for Rome, as it flows into Floyd County. The watershed encompasses an area of 225 square miles. The northern section of the watershed is almost entirely in forest. The creek flows through Haywood Valley bound to the west by the steep slopes of Little Sand Mountain and to the east by the equally steep slopes of Johns Mountain. There is no sewer in this area, the sparse residential development must rely on septic systems.

Leaving Haywood Valley the creek meanders across the floodplain of Little Texas Valley. It continues in a southwesterly direction meandering across floodplain predominantly used for agriculture. It enters the Oostanaula River opposite the Northwest Georgia Experimental Station.

The watershed is heavily forested, with the Armuchee Ranger District of the Chattahoochee National Forest comprising 65,000 acres in Chattooga County. Berry College has significant forested holdings in the watershed as does Temple-Inland Land and Timber. The latest explosive increase in land prices driven by the demand for second homes has pressured many family estates and large timber companies to liquidate their holdings across the state. Temple-Inland has recently put nearly 400 acres of timberland up for sale in this watershed.

Regal Spring is a tributary to the creek in the northern area of the watershed. Temple-Inland, in their 2004 Sustainability Report identified the Spring as a “Distinctive Site”, being one of 17 in and among their two million acres of forest. These sites are chosen based on biological, geologic, archaeological, or historic significance. They are recognized as being “unique spring flows” capable of delivering an estimated 10 million gallons of water daily. The Georgia Conservancy partners with Temple-Inland on the Distinctive Site project. Sam Breyfogle, Forest Manager for Temple-Inland stated that the distinctive sites are managed with regard to their being unique. Chattooga County has been pursuing plans to develop this spring as a source of drinking water.

Municipalities and counties in the watershed include the City of Rome, Floyd and Chattooga Counties.

Land Use – forest 79.9%, pasture/hay 11.6%, row crops 4.1%, high residential 0.1%, high commercial 0.1%, mining 0.6%, transitional 2.7%, other grasses 0.1%, and wetlands 0.3%. This watershed has the largest percent forested of any of those surveyed. Data on land use was taken from Georgia DNR EPD publication *Total Maximum Daily Load Evaluation for Fifty-Eight Stream Segments in the Coosa River Basin for Fecal Coliform* (2004). This is the most recent land use data available for this watershed.

Point Sources:

- Landfills: Jones Mill Rd. Permit #057-011D
- No CAFO's, Mines or LAS exist in this watershed

The Northwest Regional Water Resources Partnership is a regional coalition of water permit holders and other interested parties located in and adjacent to the Coosa River Basin in northwest Georgia. The Partnerships' area is defined by the 15 counties within the North Georgia and Coosa Valley RDC areas. The Partnership has taken a proactive stand in initiating regional or "sub-state" comprehensive water planning. Brown and Caldwell worked with the Partnership to outline the future scope and budget necessary to undertake water, wastewater, and watershed planning for the entire region. The Partnership represents the "next wave" of regional planning that will involve non-metropolitan counties that do not necessarily share a central feature as did the Atlanta-focused Metropolitan North Georgia Regional Water Planning District. Floyd County has representation in the Partnership.

The Environmental Law Institute looked at various "Non-point Source Enforceable Mechanisms in Context". That study published in 2000 identifies Armuchee Creek in Floyd and Chattooga Counties as one of two "priority areas" for the EQIP program in the Coosa watershed. "The types of practices that are typically priorities in the Coosa watershed concern livestock waste, alternative water supplies, and grazing practices" (p.15). The NRCS representative confirmed that this watershed was indeed prioritized under EQIP and received quite a bit of the available funding for BMP's that year. There has been a lot of fencing, alternate water sources, pasture management, etc, directed at the agricultural land uses in the watershed.

Armuchee Creek

COMPLETE THE FOLLOWING TABLES FOR AND NARRATIVES ABOUT EACH IMPAIRED STREAM IN THE WATERSHED.

STREAM SEGMENT NAME	LOCATION	MILES/AREA	DESIGNATED USE	PS/NS
Armuchee Creek	Oostanaula Tributary	20	Fishing	NS

III. SOURCES AND CAUSES OF STREAM SEGMENT IMPAIRMENT LISTED IN TMDLs

After reviewing the TMDLs written for this stream, complete the following tables with **the information found in the TMDLs**. List each parameter for which the stream segment is impaired and the water quality standard violated. See the instructions for the water quality standards. Describe the sources and causes of each violation identified in the TMDLs.

Table 2. SOURCES OF IMPAIRMENT AS INDICATED IN TMDLs

PARAMETER 1	WQ STANDARD	SOURCES OF IMPAIRMENT	NEEDED REDUCTION FROM TMDL
Fecal Coliform Bacteria	1000 per 100ml (geometric mean Nov-Oct) 200 per 100ml (geo. Mean May-Oct)	Wildlife Agricultural/Livestock <ul style="list-style-type: none"> Animal grazing Animal access to streams Application of manure to pastureland and cropland 	85 percent for all sources

		Urban Development <ul style="list-style-type: none"> • Leaking septic systems • Landfills 	
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IV. IDENTIFICATION AND RANKING OF POTENTIAL SOURCES OR CAUSES OF IMPAIRMENT

INVESTIGATE AND EVALUATE the sources of impairment for each parameter listed in Table 2. Write a narrative describing efforts made or procedures used to verify the significance and extent of the sources or causes of each impairment listed in the TMDLs. Include:

- Involvement of stakeholder group
- Field surveys
- Review of land cover data
- Evaluation of sources

Land use data: forest 79.9%, pasture/hay 11.6%, row crops 4.1%, high residential 0.1%, high commercial 0.1%, mining 0.6%, transitional 2.7%, other grasses 0.1%, and wetlands 0.3%. This watershed has the largest percent forested of any of those surveyed, suggesting that the potential for wildlife being a source of bacteria may be high.

Field Survey observations: Overall pasture and cattle with access to stream were seen, the riparian buffers were variable. October 15, 2005 the field researcher participated in Rivers Alive cleanup, part of a statewide effort. Coosa River Basin Initiative (CRBI), a local citizens watershed group holds the cleanup annually along Little Texas Valley Rd. portion of the watershed. Prior to the cleanup, a dogs' carcass had been recently dropped beside a tarp in the brush only 10 ft. from the stream. A deer carcass was observed several days later about 25 ft. from where the dog had been. At the foot of very steep slopes many bones in various stages of decomposition were scattered around the narrow floodplain. This is a fairly remote road and seems to be a location for dumping. (see FIELD SURVEY below).

Chris Collier from the Floyd County Health Department was contacted to see what, if anything, can be done should freshly dead animals be discovered in the buffer zone of a stream. Animal control will respond to complaints about carcasses blocking a roadway but not necessarily a situation like this. Sometimes a prison detail will be called to respond and take it to the landfill, depending on their location and schedule for that

day. If this section of the stream is the unofficial place to dump unwanted animal carcasses in the community, then it would be a possible source of a significant amount of bacteria. Strict guidelines at the nearby landfill may contribute to the problem of public dumping in this area.

FIELD SURVEY

Roman numerals indicate stops that were made while doing the survey. These locations are noted on the GIS map coverage.

Armuchee Creek

Jill Joss and Nancy Gribble

Wx : sunny, hot

- I. Old Dalton Rd. Bridge – good buffer, pasture beside creek, blue heron observed in pond near creek.
- II. Warren Rd. bridge across creek – cattle from Turner Bend Cattle Co. have regular access to the creek. A pond on the property has a culvert that runs from the pond directly down to the stream. Water cloudy. *Photo DSC00046* indicates a well-forested buffer zone, although some areas are mowed clear down to the creek bank.
- III. US Hwy 27 Rd. bridge – near Big Texas Valley Rd. Stream has healthy buffer all along the banks. Low residential land use in this area. Very steep slopes along banks.
- IV. US Hwy 27 Rd. bridge – approx. 5 miles north of previous stop. Well buffered area, more agricultural, less residential

As stream flows through Haywood Valley land use is agricultural and sparse residential, buffer zone is spotty in places.

- V. Rd. bridge on Haywood Valley Rd. beside Ebenezer Baptist Church. *Photo DSC00053* looking upstream shows dense buffer along banks. Stream has good flow here, lots of vegetation along banks.
- VI. Dry Creek Rd. bridge – just below confluence of East and West Armuchee creeks to form Armuchee Creek.

To the extent possible, identify sources and quantify the extent of pollution in the stream segment for each of the parameters listed in Table 2 and evaluate the likely impact on the parameter load to the stream. This should follow research performed and described in preceding narrative and should correct or add information to the TMDLs. **The SOURCES SHOULD BE RANKED** from those having the most impact to those having

the least impact. The estimated extent of contribution can be expressed as the area of the watershed effected, the stream miles effected, or the number of activities contributing to the problem. The magnitude of contribution should be estimated to be large, moderate, small, or negligible.

Table 3. CONCLUSIONS MADE OF POTENTIAL SOURCES OF STREAM SEGMENT IMPAIRMENT

PARAMETER 1	POTENTIAL SOURCES	ESTIMATED EXTENT OF CONTRIBUTION	ESTIMATED MAGNITUDE OF CONTRIBUTION	COMMENTS
Fecal Coliform	Wildlife	Throughout, this is the most forested watershed of all those with impaired streams	Large	Chattahoochee Ranger District of Chattahoochee National Forest covers large percentage of watershed. Berry College and Temple-Inland also own significant amounts of forestland. This is the most highly forested watershed of all those with impaired streams.
	Septic	Areas without sewer	Moderate	No sewer in upper reaches although sparsely populated
	Agricultural / cattle	Significantly fewer than in past.	Moderate	Of cattle that remain, some do have access to the creek, although a lot of federal money for bmps has been directed to this watershed, a lot of work done
	Agricultural / pasture		Moderate	
	Agricultural / row crops	Small % of total land in watershed	Small	Row cropping has gone to pasture or succession to trees.

V. STAKEHOLDERS

PUBLIC INVOLVEMENT AND THE ACTIVE PARTICIPATION OF STAKEHOLDERS is essential to the process of preparing TMDL implementation plans and improving water quality. Stakeholders can provide valuable information and data regarding their community, impaired water bodies, potential causes of impairments, and management practices and activities which may be employed to reduce the impacts of the causes of impairment.

Describe outreach activities to advise and engage stakeholders in the TMDL implementation plan preparation process. Describe the stakeholder group employed or formed to address the impaired segments in the watershed. Summarize the results of the number of attendees and meetings and describe major findings, recommendations, and approvals.

The Coosa Valley Regional Development conducted several TMDL informational and stakeholder public meetings:

The mailing list for the first meeting included all officials from the cities and counties in the watersheds for the impaired streams. A notice about the 303(d) listed streams, a general handout on the TMDL process, and an RSVP form were mailed to each of the 136 individuals on the list (see attachment).

Outreach for the second meeting included over 200 poultry farmers in the watersheds added to the mailing list. A similar letter was sent to all of those notified of the first meeting as well as the added farmers, watershed groups, educators, and other stakeholders identified at the first meeting or by additional outreach.

The mailing for the third meeting in December was supplemented by posting of flyers in the watershed community. 10-15 flyers were posted/handed out for each 10-digit HUC in an attempt to attract and educate more of the public-at-large (see attachment). The meeting was purposely scheduled during evening hours to allow for broader participation. The Stakeholder Advisory Groups were formed, including individuals who had attended one or more of the past stakeholder meetings. Where we discovered key stakeholders that had not yet participated, they were included even at the late date.

May 17, 2005 TMDL Stakeholder Meeting held at the Forum in Rome, Georgia for the streams in the Coosa Basin (27 attendees)

A powerpoint presentation was given concerning TMDL s and the TMDL process, responsibilities under the contract and the timeline involved. Comments were made concerning how the TMDL process fits together with watershed assessments, stormwater requirements, and other water quality programs. There is a lot of overlap. Standards for bacteria monitoring were discussed, concerning whether e-coli or fecal coliform is the best indicator of threats to human health. For the purposes of the TMDL process as it stands we are working with data indicating impairment due to fecal coliform. Some participants had expected that these meetings would be concerning phosphorus and dissolved oxygen issues and wondered where things stood with that process. There was confusion surrounding the issue of quantifying, identifying, and subsequently addressing non-point sources of pollution given the fact that non-point sources are, by their very definition, unable to be pinpointed. BMP's used to target non-point pollution from various land uses were discussed.

One stakeholder questioned the EPD and Contractors' commitment to the TMDL process. They recall having participated in other TMDL meetings in the past and never heard anything more. One stakeholder suggested that approval of Phase II Stormwater plans would give some authority to certain groups to be responsible for runoff pollution.

September 1, 2005 TMDL Stakeholder Meeting held in Rome, Georgia for the Floyd/Chattooga County areas (24 attendees)

This meeting started with the showing of two videos, "TMDLs in Georgia, and "When Red Clay Meets Blue Water". A powerpoint presentation followed with photos from the field surveys reviewed and findings shared regarding ranking of sources from field survey observations. Discussion followed. Local government officials commented on the fact that there is no regulatory authority to control agriculture, septic processes, or homeowners who clear vegetation along the streambank. Some states require regulation of septic systems beyond initial installation. A comprehensive approach to on-site septic systems has been used in some communities where there are no sewer systems.

The general consensus was that the State needed to partner with local government on these issues, not pass the responsibility of enforcement down to the local level. The action at the State level to reduce the minimum size of buffers is a good example. The Georgia Poultry Federation shared the extensive work that has been done voluntarily by the poultry community as far as their Comprehensive Nutrient Management Plans. It was expressed that farms are managed best when allowed to make improvements on a voluntary basis and cautioned about over-regulating the industry. Some stakeholders urged more monitoring to be sure that the data that communities are regulated on is accurate.

October 18, 2005 Fall Workshop-Northwest Georgia Regional Water Resources Partnership held in Dalton, Georgia. Workshop title: CLEAN WATER the TMDL Link, A Toolbox for Improving Water Quality. Coosa Valley Regional Development Center & North Georgia Regional Development Center had two separate breakout sessions on the TMDL Implementation Plans for Stakeholder Interest (73 attendees)

December 8, 2005 Stakeholder Meeting held at the Sara Hightower Regional Library in Rome, Georgia for Floyd and Chattooga Counties (12 attendees)

Stakeholders were also contacted individually to introduce the TMDL implementation process and to invite input into the implementation plans as members of the advisory committee.

October 15 – Rivers Alive clean-up sponsored by CRBI. Field researcher joined group of about 20 volunteers in picking up trash along banks of creek along Little Texas Valley Rd. all the way up to Scenic Rd. Field researcher identified piles of bones all along the banks. a dead dogs' carcass had been recently dumped and a deers' carcass was protruding from a plastic trash bag on the other bank.

February 14, 2006 The Chattooga and Floyd Stakeholder Advisory Group met at the Coosa Valley Development Center to discuss draft Implementation Plans. In attendance were Leigh Ross, Rome-Floyd County Water and Sewer, Kennith Moseley representing Chattooga County Farmers, Brent Allen, Chattooga County USDA Cooperative Extension Agent, David Howerin, Planning Director, Coosa Valley RDC, and Jill Joss and Julie Meadows of Coosa Valley RDC.

March 21, 2006 The Floyd Stakeholder Advisory Group met at the Coosa Valley Regional Development Center to review the draft plans. Due to low turnout from Floyd County at the previous SAG Meeting this meeting was scheduled. Floyd and Chattooga Counties will meet as separate Advisory Groups. In attendance were Leigh Ross, Rome-Floyd County Water and Sewer, Sheri Teems from USDA-NRCS, Jarrell Cagle, a farmer from Floyd County, John Bagwell, representing Irwin Bagwell of Bagwell Farms in Floyd County, Eric Lindberg of Rome-Floyd County Environmental Services, David Howerin, Planning Director, Coosa Valley RDC, and Jill Joss and Julie Meadows of Coosa Valley RDC. Stakeholders commented that there is virtually no poultry in the watershed, and areas previously row-cropped are now turning to permanent grass and pasture and trees. All remarked on the high degree of forested land in the watershed and the potential for wildlife as a potential source of bacteria is high.

Sheri Teems from NRCS reported that the agricultural community in this watershed has been the recipient of much attention with regard to bmp's that address water quality specifically. It was the focus of EQIP funding in 2000. They completed many projects working with the agricultural community along the creek. She had also shared the fact that there is less cattle now than there was in 2000 (brainstorming was done on ways to quantify the actual numbers, most data around bovine census is collected and analyzed on a county-by-county basis, or by NRCS district rather than watershed, so the numbers are not easily arrived at). Sheri Teems discussed the limitations that inadequate funding puts on their need to offer technical assistance and cost-sharing on bmps for agriculture. This year the EQIP program has become highly competitive. They have succeeded in educating the agricultural community about the benefits of bmp's to the point that there are more on waiting lists than are able to be served under present funding levels.

The major agricultural focus for the USDA Cooperative Extension Service in the watershed is on crop and pasture improvement including soil testing, proper application of fertilizer- nutrient management , grants for improving grass stands, improvement using rotational grazing and cross fencing. In addition the Chattooga Young Farmers conducts classes and workshops which focus on improvements in agricultural practices that in turn, can have a positive impact on water quality. Their activities include tours of innovative facilities and demonstration projects of bmp's.

A major topic of discussion centered on additional monitoring to better isolate sources of bacteria. The group brainstormed on potential resources and costs to the community.

List the watershed or advisory committee members of the stakeholder group for this segment in the following table.

Table 4. COMMITTEE MEMBERS

NAME/ORG	ADDRESS	CITY	STATE	ZIP	PHONE	E-MAIL
Mike Dawson – Chattooga County Commissioner		Summerville	GA	30747		
Nichole Dyer – Chattooga Co. Chamber of Commerce, Director of Tourism and Community Development	P.O. Box 217	Summerville	GA	30747	(706) 506-3160	nicholedyer@alltel.net
Brent Allen – Chattooga	10011 Commerce St.	Summerville	GA	30747	(706) 857-0744	

Co. Extension Service						
Kennith Moseley – Chattooga Co. Young Farmers' Association	11851 Co. Rd. 41	Gaylesville	AL	35973	(706) 895-2385	
Shaun Brand – Chattooga Co. Health Department	60 Farrar Rd.	Summerville	GA	30747	(706) 857-3471	
Greg Hurley – Farm Representative	221 Trixie Ln.	Summerville	GA	30747	(706) 857-7689	
Wayne Hurley – Farm Representative	20 Trixie Ln.	Summerville	GA	30747	(706) 857-2707	
Limestone Valley RC & D Council	125 Red Bud Rd. NE Suite 7	Calhoun	GA	30701	(706) 825-7044	
Keith Gilmer – GA. Soil and Water Conservation Commission	700 E. 2 nd Ave.	Rome	GA	30165	(706) 295-6131	
Joe Cook – Katie Owens – Coosa River Basin Initiative	408 Broad St.	Rome	GA	30161	(706) 232-2724	jcook@coosa.org
Linda Elder – Chattooga Co. resident	P.O. Box 257	Armuchee	GA	30105	(706) 802-5506	
Sheri Teems – NRCS District Conservationist	1401 Dean St. Suite I	Rome	GA	30161-6494	(706) 291-5651 Ext. 3	Sheri.Teems@ga.usda.gov
Eric Lindberg – Rome/Floyd County Environmental Services	P.O. Box 1433	Rome	GA	30165	(706) 236-4674	elindberg@romega.us
John Boyd – Rome/Floyd Co. Water Department	P.O. Box 1199	Rome	GA	30162-1199	(706) 291-5174	
Chris Collier – Floyd County Health Dept.	315 W. 10th	Rome	GA	30161	(706) 295-6123	

In Appendix A, list the names, addresses, telephone numbers, and e-mail addresses for local governments, agricultural or commercial forestry organizations, significant landholders, businesses and industries, and local organizations including environmental groups and individuals with a major interest in this watershed.

VI. MANAGEMENT MEASURES AND ACTIVITIES

Describe any management measures or activities that have been put into place or will be put into place including regulatory or voluntary actions or other controls by governments or individuals that specifically apply to the pollutant that will help achieve water quality standards. Include who will be responsible for the measure, how it will be funded, the status, the date it will be or was initiated, and a short description of how effective the measure is or will be.

Table 5. MANAGEMENT MEASURES AND ACTIVITIES

GENERAL MEASURES APPLICABLE TO ALL PARAMETERS

RESPONSIBILITY	MEASURE	DESCRIPTION	SOURCE OF FUNDING	STATUS	ENACTED/IMPLEMENTED	EFFECTIVENESS (Very, Moderate, Weak)
Federal Clean Water Act, Section 305(b) and 303 (d)	USEPA, Georgia DNR EPD, Floyd, Chattooga Counties	The congressional objective of the Clean Water Act "is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." Section 305 (the <i>National Water Quality Inventory</i>) requires states to report progress in restoring impaired waters to EPA on a Biennial basis. Section 303(d) requires states to identify 'impaired' waters, submit a list to EPA every two years, and develop TMDLs for these waters	Federal, Georgia	Enforced		
Georgia Water Quality Control Act (OCGA 12-5-20)	Georgia Rules and Regulations for Water Quality Control, Chapter 391-3-6	Law prohibiting discharge of excessive pollutants (sediments, nutrients, pesticides, animal wastes, etc.) into waters of the State in amounts harmful to public health, safety, or welfare, or to animals, birds, or aquatic	Federal, Georgia, Floyd, Chattooga Counties	Enforced	11/1964	

		life or the physical destruction of stream habitats. Law authorizing Georgia EPD to control water pollution, eliminate phosphate detergents, and regulate sludge disposal; to require permits for agricultural ground and surface water withdrawals; to prohibit situation of state waters by land disturbing activities and require undisturbed buffers along state waters; to require land-use plans that include controls to protect drinking water supply sources and wetlands; to require river basin management plans on a rotation schedule for all major river basins.				
Georgia Erosion and Sedimentation Control Act, Construction Permit, 2003 Amendment	Floyd County, Chattooga County, Georgia DNR/ EPD, Georgia Soil and Water Conservation Commission	Floyd County, City of Rome certified as Local Issuing Authority for land-disturbing activities. Requires Erosion and Sedimentation Control Plan incorporating best management practices plus "Qualified Personnel" Training and Certification Program adopted from Georgia Soil and Water Conservation Commission. Certification of on-site "Qualified Personnel" to ensure proper design, construction, and maintenance of standard E &	Floyd County, City of Rome	Enforced		

		S control measures and storm water management practices				
Georgia Mountain and River Corridor Protection Act	US Corps of Engineers, US EPA	Mountain and River Corridor Protection Act requires local governments to provide a 100-foot buffer on large rivers.				Very if enforced
Georgia Planning Act	US Corps of Engineers, US EPA	Water supply watershed protection requirements including stream buffer requirements and SWAPs. The Georgia Planning Act calls for protection of streams that flow into reservoirs or are upstream from drinking water intakes.	State	Enforced	1989	Very if enforced
Erosion and Sedimentation Control Training and Certification	Georgia Soil and Water Conservation Commission, GA EPD, Rolling Hills RC&D	House Bill 285 requires state certification in Erosion and Sedimentation Control for anyone involved in the following activities: land development, design, review, permitting, construction, monitoring, inspection, or any land-disturbing activity in Georgia (Georgia Soil and Water Conservation Commission, 2005). The GSWCC also has updated requirements for E&SC plans to be submitted with each project. Three levels of certification are offered through the Rolling Hills Regional Conservation and Development Council (RC & D) for Floyd County.	Georgia Soil and Water Conservation Commission, GA EPD	Enforced, certification by end of 2006		Very

Construction Storm Water Discharge NPDES Permit	Georgia DNR/EPD, Floyd County	General storm water permit for stand-alone construction sites; infrastructure permits; and common developments. Requires implementation of Erosion, Sedimentation and Pollution Control Plan plus monitoring of discharge for compliance with Georgia's in-stream water quality standards.	State	Enforced		
Industrial Storm Water Discharge NPDES Permit	Georgia DNR/EPD, Floyd County	General storm water discharge permit for manufacturing facilities; mining, oil, and gas operations; hazardous waste treatment; storage or disposal facilities; recycling centers; steam electric power generating facilities; transportation facilities; domestic sewage or sewage treatment. Requires implementation of Storm Water Pollution Prevention Program. May require storm water monitoring program targeting discharges into/near 303 (d) listed waters.	State	Enforced		Effectiveness will vary with the specific application and must be individually determined.
Phase II NPDES Storm Water Permit for Small MS4	Georgia DNR & EPD, Floyd County (not Chattooga)	Requires local jurisdictions to develop a comprehensive Storm Water Management Program (SWMP) to include 1. Public Education and Outreach; 2. Public Participation and Involvement; 3. Illicit Discharge Detection and	Floyd County	Enforced		

		Elimination; 4. Construction Site Storm Water Runoff Control; 5. Post-Construction Storm Water Management in New Development and Redevelopment; 6. Pollution Prevention and Good Housekeeping related to municipal operations, reporting, monitoring and program implementation.				
Sanitary Sewer Maintenance Program	Floyd County	Sanitary Sewer system inventory and inspection (mapping, television inspections); infiltration and inflow identification and reduction (flow monitoring, smoke testing); sewer line rehabilitation (pipe bursting, relining, cleaning) and manhole rehabilitation.	Floyd County	Enforced	Ongoing	
EPA Section 319 Non-point Source Implementation Grants	Georgia Department of Agriculture/ Georgia Environmental Protection Division for enforcement action	Funds distributed through a competitive process to public agencies, regional development centers, state colleges and universities, and state agencies.	Federal, State		Yearly	Varies with BMP or project
Georgia Best Management Practices	Georgia DNR/EPD	Informs those involved in the agriculture business of effective practices to minimize non-point sources of pollution	Georgia			Varies with BMP
Farm Bill 2002 Forestland Enhancement Program	Georgia Forestry Commission	The Forestry Commission has implemented best management practices on its lands to reduce	Federal, State		Ongoing	Very

		sedimentation and erosion from silviculture practices. The Georgia Forestry Commission also provides education, technical and financial assistance through cost-share programs to private landowners especially in the Forestland Enhancement Program, a part of the 2002 Farm Bill.				
Federal Farm Bill 2002	United States Department of Agriculture/ Natural Resources Conservation Service	Enhances long-term quality of our environment and conservation of our natural resources. This bill provides several opportunities for receiving grants to improve water quality.	Federal Cost-Share and Incentive Programs		2002 –will be reauthorized in 2006	Varies with BMP applied.
Regulation of On-site Sewage Management Systems IAW O.C.G.A. 290-5-26	Georgia DHR Floyd and Chattooga County Board of Health	Rules and regulations for installation and repair of on-site sewage management systems.	State, Floyd and Chattooga Count(ies) Boards of Health	Ongoing		Effectiveness will vary with the specific application and must be individually determined.
Watershed Protection Tools Addressing Poor Riparian Buffers	Floyd County and stakeholders	Riparian Buffer Ordinance (Stream Buffer Protection Ordinance); Stream Restoration; Stream Mitigation Bank; Conservation Subdivision Ordinance				Very if enforced
Watershed Protection Tools Addressing Point Sources	Floyd County and stakeholders	Improved NPDES permits; Enforcement of existing permits				Very if enforced
Watershed Protection	Floyd County and stakeholders	Relevant Storm water Management and				Very if enforced

Tools Addressing Impervious Surfaces and Storm Water Runoff		Conservation Subdivision Ordinances; Conservation Planning				
Municipal Ordinance	Floyd County/ Code Enforcement Office	Post-Development Stormwater Management Ordinance with stream buffer limits	General fund	On-going	January 2005	Very
Capacity, Management, Operations and Management (CMOM)	USEPA, Rome-Floyd County	USEPA regulation requires local utilities to increase operations and management reviews on sewer connection systems and lift stations. Applicable BMPs include frequent inspections and testing, back-up power facilities.	General Fund	Enforced	Recently approved by EPD (2006) under SSO Agreement Status.	Very
Municipal Ordinances	Floyd County	2005 Unified Land Development Code of Rome-Floyd County includes the following ordinances: Section 6.13, Erosion and Sedimentation Control including a requirement for E and S Plans by developers; Section 6.14, Flood Damage Prevention (references the Flood Insurance Study of 2000); Section 3.3, Zoning regulations that include Planned Development zoning with a requirement for 20% of land within the residential development to be preserved as openspace, excluding recreational space; Section 6.15,	Enforced		2005	

		Stormwater Management including a stormwater management plan required of developers; Section 6.18 addressing tree planting requirements; and Section 6.19, addressing watershed and wetlands protection, including setback restrictions and greenways, including buffers of 100 feet on river corridors and 40 feet on tributaries including Silver Creek, Armuchee Creek, and Big Cedar Creek.				
Floyd County Comprehensive Plan	Floyd County	The draft of the Community Assessment/ "Natural and Cultural Resources" section of the plan identifies several opportunities.				
Community clean-ups through "Rivers Alive" annual events and other sponsored activities	Coosa River Basin Initiative, City of Rome,	Volunteers participate in clean-ups around the basin, including a segment of the Armuchee Creek watershed.				
Environmental Trust Fund Resolution	NERA, Floyd and Chattooga Counties	Resolution calling for State of Georgia to fully appropriate fees collected from developers for erosion and sedimentation intended to fund additional inspectors to implement ordinances as intended	State			Very

VII. MONITORING PLAN

The purposes of monitoring are to obtain more data, to determine the sources of pollution, to describe baseline conditions, and to evaluate the effects of management and activities on water quality. Describe any sampling activities or other surveys - active, planned or proposed - and their intended purpose. Reference the development and submission of a Sample Quality and Assurance Plan (SQAP) if monitoring for delisting purposes.

Table 6. MONITORING PLAN

PARAMETER(S) TO BE MONITORED	ORGANIZATION	STATUS (CURRENT, PROPOSED, PLANNED)	TIME FRAME		PURPOSE (If for delisting, date of SQAP submission)
			START	END	
Fecal coliform	City of Rome Water Dept.	To propose	TBA		De-listing
	GAEPD and USEPA	ongoing	2005	2006	Coosa River Modeling Project
DO,SS,pH,temperature,ammonia,phosphates,nitrates	CRBI	monthly	2005		At 25 sites throughout Floyd County

VIII. PLANNED OUTREACH FOR IMPLEMENTATION

List and describe outreach activities which will be conducted to support this plan and the implementation of it.

Table 7. PLANNED OUTREACH

RESPONSIBILITY	DESCRIPTION	AUDIENCE	DATE
CVRDC	Provide resources for sampling to delist as had been done with Lavender Creek	John Boyd – City of Rome Water Dept.	April 2006
CVRDC	Conduct Stakeholder Advisory Group Meeting outreach - Floyd County representation	Stakeholders	March 2006
CVRDC	Outreach to Chattooga County for representation	Mike Dawson – Chattooga County Commissioner	March 2006
CVRDC	Work to develop partnerships among stakeholders, additional outreach to broaden participation	Stakeholders	March -June 2006
CVRDC	Discuss septic system issues and need for public education, Is there the potential to enact septic tank cleanout program ordinances in either county?	Stakeholder Advisory Group	March -June 2006
CVRDC	Propose a stream walk for stakeholders/community	Stakeholder Advisory Group	April 2006
CVRDC	Discuss potential for coordination with Comprehensive Plan for Floyd County currently in planning stages. Cite observations made in Community Assessment – Dec 2005 about state of current “resource awareness” and “implementation enforcement”	Stakeholder Advisory Group	March 21, 2006
Chattooga Co. Young Farmers	Workshops educating farmers about agriculture and water quality issues. Held approximately twice	Agricultural community	TBA

	per year.		
Stakeholder Advisory Group	Evaluate the possibility of "Bacterial Source Tracking" to determine whether source of bacteria is human or animal in origin, thereby allowing for targeted bmp's.	UGA, Peter Hartel	March-April 2006
CVRDC	Explore possibility of reconvening Stormwater Steering Committee established by CVRDC in 2001-2002 allowing counties to share experiences in complying with Phase II requirements	Local government representatives who were involved in Stormwater Steering Committee 2001-2002. David Howerin to locate list.	March-April 2006
CRBI	Monitoring Chattooga county's efforts to develop Regal Spring as a drinking water source, advocating for the protection of this pristine spring and water flows in Armuchee Creek (CRBI Annual Report)	CRBI membership	ongoing
Armuchee Elementary School	Has been integrating environmental science into schools' curriculum. They have also established gardens with endangered plant species and participated in the Adopt-a-stream program. They were honored with CRBI's Environmental Education Award	Armuchee Elementary School students	ongoing

IX. MILESTONES/ MEASURES OF PROGRESS OF BMPs AND OUTREACH

This table will be used to track and report progress of management measures including BMPs and outreach. Record milestone dates for:

- accomplishment of management practices or activities - outreach activities

- installation of BMPs

to attain water quality standards. Comment on the effectiveness of the management measure, how much support the measure was given by the community, what was learned, how the measure might be improved in the future, and any other observations made. This table can be "pulled out" of this template and used to report and track progress.

Table 8. MILESTONES

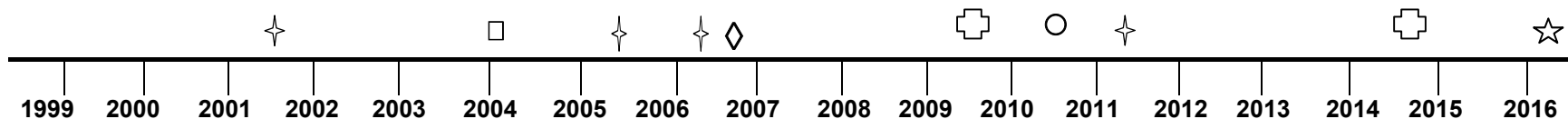
MANAGEMENT MEASURE	RESPONSIBLE ORGANIZATIONS	STATUS PROPOSED INSTALLED		COMMENT
<p>Stormwater Management Education and Outreach</p> <ul style="list-style-type: none"> Complete Center for Watershed Protection's <u>Codes and Ordinances Worksheet</u> Consider Adopting 22 Model Development Principles as discussed in Better Site Design: A Handbook for Changing Development Rules in Your Community where applicable Implement education of community using After the Storm non-point source pollution video presentation on public access channels Develop and implement an operation and maintenance program that includes a training component and has the 	<p>Local Governments</p> <p>Local Governments</p> <p>Local Governments</p> <p>Local Governments</p>	<p>Summer 2006</p> <p>2007-2008</p> <p>Ongoing</p> <p>2006-2008</p>		

<ul style="list-style-type: none"> ultimate goal of preventing or reducing pollutant runoff from municipal operations Reconvene Stormwater Working Group to include all counties, municipalities in Coosa Valley RDC area Will investigate 319 h non-point source pollution grant possibilities regarding funding for development of stormwater management training for municipal employees 	Coosa Valley RDC, stakeholders	2006		
	Coosa Valley RDC, stakeholders	2006		Application deadline May 31, 2006. Yearly deadline.
Septic System Maintenance Education and Outreach				
<ul style="list-style-type: none"> Investigate expansion of district-wide outreach component to homeowners to include those with existing systems Will investigate 319 h non-point source pollution grant possibilities regarding septic system maintenance and repair project 	Coosa Valley RDC, stakeholders	2006		
	Coosa Valley RDC, stakeholders	2006		Application deadline May 31, 2006. Yearly deadline.
Riparian Buffer Education and Outreach				
<ul style="list-style-type: none"> Consider adopting relevant principles as detailed in 22 Model Development Principles as discussed in Better Site Design: A Handbook for Changing Development Rules in Your Community Continue education and outreach to local communities through USDA NRCS/FSA, County Extension Service Will investigate 319 h non-point source pollution grant possibilities regarding purchasing and distribution of education materials encouraging homeowners to 	Local Governments	2007-2008		
	USDA NRCS/FSA, County Extension Service	Ongoing		
	Coosa Valley RDC,	2006		Application deadline May 31, 2006. Yearly deadline.

develop, maintain riparian buffers	stakeholders			
Investigate Funding Sources <ul style="list-style-type: none"> Will investigate 319 grant possibilities regarding development of a project to survey schools in Coosa Valley RDC service area to determine interest in and feasibility of interest in water quality education, specifically on causes of non-point source pollution, importance of riparian buffers, and stormwater pollution prevention 	Coosa Valley RDC, stakeholders	2006		Application deadline May 31, 2006. Yearly deadline.

PROJECTED ATTAINMENT DATE

The projected date to attain and maintain water quality standards in this watershed is 10 years from acceptance of the TMDL Implementation Plan by Georgia EPD.



- Scheduled EPD Basin Group Monitoring
- TMDL Completed
- Revised TMDL Implementation Plan Accepted
- Plan Status Evaluation Report
- Plan Update or Revision, if Necessary
- Project Attainment for Plans Prepared in 2006

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Date Submitted to EPD: <u>04/2206</u>		Revision: <u>01</u>	

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APPENDIX A.

STAKEHOLDERS

List the names, addresses, telephone numbers, and e-mail addresses for local governments, agricultural or commercial forestry organizations, significant landholders, businesses and industries, and local organizations including environmental groups and individuals with a major interest in this watershed.

NAME/ORG	ADDRESS	CITY	STATE	ZIP	PHONE	E-MAIL
Mike Dawson – Chattooga Co. Sole Commissioner		Summerville	GA	30747		
Nichole Dyer – Chattooga Co. Chamber of Commerce, Director of Tourism and Community Development	P.O. Box 217	Summerville	GA	30747	(706) 506-3160	nicholedyer@alltel.net
Brent Allen – Chattooga Co. Extension Service	10011 Commerce St.	Summerville	GA	30747	(706) 857-0744	
Kennith Moseley – Chattooga Co. Young Farmers' Association	11851 Co. Rd. 41	Gaylesville	AL	35973	(706) 895-2385	
Shaun Brand – Chattooga Co. Health Department	60 Farrar Rd.	Summerville	GA	30747	(706) 857-3471	
Greg Hurley – Farm Representative	221 Trixie Ln.	Summerville	GA	30747	(706) 857-7689	
Wayne Hurley – Farm Representative	20 Trixie Ln.	Summerville	GA	30747	(706) 857-2707	
Ann Hutchins – Town of Trion WPCP Land App.	P.O. Box 850	Trion	GA	30753	(706) 734-7015	
Limestone Valley RC & D Council	125 Red Bud Rd. NE Suite 7	Calhoun	GA	30701	(706) 825-7044	
Sid Swords – City of Menlo	P.O. Box 155	Menlo	GA	30731	(706) 862-2440	
John Leslie	1045 Fish Hatchery Rd.	Summerville	GA	30747	(706) 857-4525	

Keith Gilmer – GA. Soil and Water Conservation Commission	700 E. 2 nd Ave.	Rome	GA	30165	(706) 295-6131	
Ron Beegle – Mt. Vernon Mills	P.O. Box 7	Trion	GA	30753	(706) 734-2311 x 132	
Joe Cook – Katie Owens – Coosa River Basin Initiative	408 Broad St.	Rome	GA	30161	(706) 232-2724	jcook@coosa.org
Shaun Brand – Chattooga Co. Health Dept.						
Linda Elder – Chattooga Co. resident	P.O. Box 257	Armuchee	GA	30105	(706) 802-5506	
Sheri Teems – NRCS			GA			
Eric Lindberg – Rome/Floyd County Environmental Coordinator		Rome	GA	30165		
Debra Gunnells – Rome Chamber of Commerce		Rome	GA	30165		dgunnells@romeomega.com
Coosa River Basin Initiative – (CRBI) Joe Cook or Katie Owens		Rome	GA	30165	(706) 232-2724	
John Boyd – Rome/Floyd Co. Water Department					(706) 291-5174	
Chris Collier – Floyd County Health Dept.						
Eric Lindberg		Rome	GA	30165		

APPENDIX B.

UPDATES TO THIS PLAN

Describe any updates made to this plan. Include the date, section or table updated, and a summary of what was changed and why.

APPENDIX C PHOTOS AND MAPS

ARMUCHEE CREEK WATERSHED
HUC 10 # 0315010305

ARMUCHEE CREEK – DSC00046 Forested buffer along Warren Road.



Next page : Forested buffer along Texas Valley Rd.



